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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/549,286	06/19/2006	Akira Sekine	278443US90PCT	2463
22850 7590 07/23/2010 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER BESLER, CHRISTOPHER JAMES				
ART UNIT 3726		PAPER NUMBER		
NOTIFICATION DATE 07/23/2010		DELIVERY MODE ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/549,286

Applicant(s)

SEKINE ET AL.

Examiner

CHRISTOPHER BESLER

Art Unit

3726

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2010.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) 5-18 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-559)
4) ☐ Interview Summary (PTO-413)
5) ☐ Notice of Informal Patent Application
6) ☒ Other: See Continuation Sheet

Continuation of Attachment(s) 6). Other: JP 05-007958A and machine translation of JP 05-007958A.

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of claims 1 - 4 in the reply filed on April 29, 2010 is acknowledged.

Drawings

2. Figures 13 and 14 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1 - 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noboru (Japanese Patent Application Publication Number 05-007985) in view of Applicant's Admitted Prior Art (AAPA).

5. As to claim 1, Noboru teaches a tube blank correcting member for use in fabricating a heat exchanger (machine translation page 1, paragraph 1) comprising: a pair of headers arranged in parallel and spaced apart from each other (drawing 5, elements 2 and 3; machine translation page 2, paragraph 2), a plurality of flat heat exchange tubes arranged in parallel between the headers and attached at opposite ends to the respective headers (drawing 5, element 1; machine translation page 2, paragraph 2) with the tube ends placed into respective insertion holes formed in the headers (drawing 2, element 2a; machine translation page 5, paragraph 16), and fins each arranged between and attached to each pair of adjacent heat exchange tubes (drawing 5, element 4; machine translation page 2, paragraph 2), the blank correcting member being adapted for use in temporarily assembling the headers, flat heat exchange tube blanks, and the fins into a unit (see drawing 2; machine translation page 3, paragraph 10), the blank correcting member extending from front rearward and having a plurality of blank fitting slits formed in a side edge thereof and arranged from the front rearward at the same spacing as the heat exchange tubes to be produced of the heat exchanger (drawings 2 and 3, elements 8 and 8a; machine translation page 3, paragraph 11).

While Noboru teaches attaching the flat heat exchange tubes to the headers and attaching the fins to the heat exchange tubes in a soldering furnace (machine translation page 2, paragraph 3), Noboru does not teach attachment by brazing. AAPA teaches a heat exchanger comprising: a pair of headers arranged in parallel and spaced apart from each other (figure 13, elements 50 and 51; page 2, lines 15 – 16), a plurality of flat heat exchange tubes arranged in parallel between the headers and attached at

opposite ends to the respective headers (figure 13, element 52; page 2, lines 17 - 18), and fins each arranged between and attached to each pair of adjacent heat exchange tubes (figure 13, element 53; page 2, lines 18 - 21). Specifically, AAPA teaches the plurality of flat heat exchange tubes being brazed at opposite ends of the respective headers and the fins being brazed to the adjacent heat exchange tubes (figure 13, elements 50, 51, 52, and 53; page 2, lines 15 - 21). It would have been obvious to one skilled in the art at the time of the invention to attach the plurality of flat heat exchange tubes and fins to the headers and heat exchange tubes, respectively, as taught by Noboru, by brazing, as taught by AAPA, because it is known that brazing would provide an adequate seal between the heat exchange tubes and heaters as well as the fins and heat exchange tubes.

6. As to claim 2, Noboru teaches that each of the blank fitting slits have an opening with a width larger than the maximum thickness of the flat heat exchange tube blank, with an open end portion of the slit flaring toward the opening with a gradually increasing width (drawing 3, element 8a; page 3, paragraph 11). Note that this can be found because Noboru teaches the blank fitting slits having a concave shape (page 3, paragraph 11).

7. As to claim 3, Noboru teaches the blank fitting slit having an open end portion which flares toward an opening with a gradually increasing width to provide a tapering portion (drawing 3, element 8a; page 3, paragraph 11). Note that this can be found because Noboru teaches the blank fitting slits having a concave shape (page 3, paragraph 11). Noboru does not teach the tapering portion having a taper angle of 10 to

20 degrees. However, it would have been obvious to one skilled in the art, as a matter of design choice, to set the taper angle of the tapering portion to 10 to 20 degrees.

8. As to claim 4, Noboru teaches the blank fitting slit having a portion other than the tapering portion (drawing 3, element 8a; page 3, paragraph 11) and illustrates the blank fitting slit having a depth that is not smaller than the width of the tube blank (drawing 1, element 8a). Note that this can be found because Noboru clearly illustrates the blank fitting slits (drawing 1, element 8a) being significantly deeper than the width of the tube blanks (drawing 1, element 1).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISTOPHER BESLER whose telephone number is (571)270-5331. The examiner can normally be reached on 7:30 - 5:00, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Bryant can be reached on (571) 272-4526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/CHRISTOPHER BESLER/
Examiner, Art Unit 3726

/DAVID P. BRYANT/
Supervisory Patent Examiner, Art Unit 3726